UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS TX 75202-2733

SEP 16 2011

Office of the Chief Clerk (MC-105)
Texas Commission on
Environmental Quality
P.O. Box 13087
Austin, TX 78711-3087

RE: MyPower Corp., Lakeside Energy Center, Freestone Co., Texas - Prevention of Significant Deterioration (PSD) Permit No. PSDTX1200 & 87222

To Whom It May Concern:

We have reviewed the above referenced draft permits for the Lakeside Energy Center power plant transmitted via e-mail by the Texas Commission on Environmental Quality (TCEQ) on August 9, 2011. Based on our review of the draft permits, we have several comments that are enclosed in this letter. We provide these comments to help ensure that the project meets federal Clean Air Act requirements, that the permit will provide necessary information so that the basis for the permit decision is transparent and readily accessible to the public, and that the permit record provides adequate support for the decision.

We look forward to working with the TCEQ to resolve the issues identified in our comments and to ensure that the final permit is consistent with the requirements of the Texas PSD State Implementation Plan (SIP) and other applicable regulations. This letter does not represent a final position by the U.S. Environmental Protection Agency (EPA) concerning this application but merely concludes our review of the draft permit as received. If you have any questions, please contact Stephanie Kordzi of my staff at (214) 665-7520.

Sincerely yours,

Stephanie Kordzi for

Jeff Robinson
Chief
Air Permits Section

Enclosure

cc: Mr. Steve Hagle
Texas Commission on Environmental Quality (MC-122)
Mr. Erik Hendrickson
Texas Commission on Environmental Quality (MC-163)

ENCLOSURE

Preliminary Determination Summary (PDS)

1. Page 2, Section V - The PDS states that MyPower is a non-major area source subject to certain 'area source' National Emission Standards for Hazardous Air Pollutants (NESHAP). However, Special Condition 4 of the permit states the source is subject to major source NESHAPs YYYY, ZZZZ, and JJJJJ, so it is unclear why MyPower would be subject to an area source NESHAP. Please provide a basis for the assertion that MyPower is a non-major area source of HAPs. See Comment 19 – 22 below for further discussion.

2. Page 4, Section VI, – The PDS should discuss the basis for Maintenance, Startup, and Shutdown (MSS) Special Conditions 5.A.(2), 5.A.(3), and 11. Best Available Control Technology (BACT) is required at all times, but it is not clear whether MSS emissions were included in compliance determinations for all BACT emission limitations. If not, the TCEQ should provide an on-the-record analysis as to why compliance with the normal BACT limits is infeasible during MSS and rapid load shift events and establish a an alternative BACT for periods of MSS. Also, the alternative BACT must meet all PSD requirements, including compliance with all applicable national ambient air quality standards (NAAQS) and increments.

3. Regardless of the variability or cycle differences between the turbines, it is expected that the SCR should meet the minimum calculated efficiency for controlling Oxides of Nitrogen ($NO_x$) emissions (approx. 80%) as stated in the applicant's BACT calculations if the catalyst is within its specified operational parameter ranges (i.e. temperatures, pressures, minimum resonance time, etc.). EPA recommends that parametric monitoring for the SCR system or any other pollution control device should be included within the permit conditions to ensure all control equipment is being operated as required. With the exception of Special Condition 16.C, which is optional, no other parametric monitoring has been included for the source. EPA recommends that additional parametric monitoring be included in the permit or that TCEQ provide an on the record analysis for why additional monitoring is not appropriate.

Permit Special Conditions

4. Page 2, Condition 5, Subpart A specifies the $NO_x$ BACT limit average of 2.0 parts per million exhaust concentration limit (corrected to 15% $O_2$) over a 24-hour rolling period. Rolling averages should also be clarified to address off-line periods (i.e. 0.0 lb/hr), especially where a 24-hour average would provide for an artificial BACT average when zeros are averaged in. We recommend that TCEQ provide an on-the-record rational/analysis for establishing a 24-hour averaging period, rather than an hourly or 3-hour averaging period for the BACT concentration. A 24-hour averaging period may not be appropriate given that the permit establishes conditions to exempt continuous emissions monitoring system (CEMS) data from the BACT concentration calculation during periods of MSS, rapid load shifts, and major burner tuning events.

5. Page 2, Condition 5, Subpart A.(2) describes a maintenance activity. Since BACT is required at all times, it would not be appropriate to exempt any CEMS reading from a BACT compliance determination unless an alternative monitoring method has been specified. EPA recommends that the permit record clarify that, even with the CEMS data being exempted from the BACT concentration calculation, the source will still show compliance with the alternative/secondary BACT limits (MSS – lb/hr) specified within the MAERT by using all the CEMS data.

6. Page 2, Condition 5, Subpart A.(3) describes what would be considered a normal operations for a load following facility, specifically rapid load shifts. BACT is required at all times. It would not be appropriate to exempt any CEMS reading from a BACT compliance determination unless an alternative monitoring method has been specified. EPA recommends that the permit record clarify that, even with the CEMS data being exempted from the BACT concentration calculation, the source will still show compliance with the alternative/secondary BACT limits (lb/hr) specified within the MAERT by using all the CEMS data.

7. The meaning of 'rapid load shift' as used in the permit is not clear. EPA recommends that TCEQ clearly define the term and incorporate it into the permit such that appropriate monitoring and recordkeeping will be generated for the duration of the event. Please explain whether these events will also impact carbon monoxide (CO) emissions, such that the source will be unable to maintain compliance with the proposed CO BACT concentrations. EPA notes the initial permit does not exempt CEMS data for CO emission BACT concentration calculations and that the averaging period is established at 3-hours.

8. Please define the term 'Hot Starts', as referenced from the application as an alternative operating scenario, and incorporate the term into the permit such that appropriate monitoring and recordkeeping will be generated for the duration of the event.

9. Page 3, Condition 6 - New Source Performance Standards (NSPS) IIII applicable to firewater and emergency engines require the use of Ultra Low Sulfur Diesel (ULSD) (as of October 1, 2010) containing not more than 15 ppm of sulfur. Please verify and correct the permit condition, if necessary, to specify ULSD.

10. Page 3, Condition 6 provides for non-emergency firewater and emergency engine operating hours, but does not provide for foreseeable emergency operations. EPA guidance (see http://www.epa.gov/ttn/oarpg/t5/memoranda/emgen.pdf) suggests engines should be permitted for 500 hours to include both emergency and non-emergency operations and appropriately limit the units PTE. EPA recommends that the permit includes a reasonable permitted hours limit to ensure an accurate PTE is established as appropriate.

11. Page 3, Condition 8 limits the auxiliary boiler hours to a maximum of 870 hours per year, however there is no recordkeeping requirements within the permit for this metric. Special

condition 19.G only provides for fuel use recordkeeping requirements. Please add appropriate monitoring and recordkeeping to the permit to ensure the source can demonstrate compliance with this condition.

12. Page 4, Condition 9 states that if visible emissions are observed, the source has up to 24 hours to perform an EPA Method 9 observation to determine compliance. Given the operational variability as represented in the application, the delay in the required method 9 reading does not appear timely enough to ensure continued compliance. EPA recommends that TCEQ either provide an on the record analysis for why the condition is practicably enforceable as written or change the permit condition to require Method 9 be performed immediately if visible emissions are present.

13. Page 8, Condition 14 sets forth the $NO_x$ CEMS operating methods in accordance with CFR 60.4345. EPA recommends that TCEQ add a statement that excess emissions shall be determined from CEMS data based on the methods outlined in CFR 60.4350.

14. Page 8, Condition 16 lists alternative test methods for determining compliance with the ammonia slip limits. For each approved alternative, EPA recommends that TCEQ reference or cite the applicable and appropriate EPA test method, ASTM standard, or other approved QA/QC method/standard to ensure the integrity of the process.

15. Page 10, Condition 17.D establishes methods for demonstrating compliance with the pounds per hour and tons per year Particulate Matter (PM) limitations for the cooling tower. It is not clear that the proposed methodology is practicably enforceable considering the inherent limitation of a once per week conductivity test. For example, depending on where the water is in the blow-down cycle, i.e. immediately following or proceeding blow-down, how does the source minimize the possibility of the reading being averaged either artificially low or high?

16. Page 12, Condition 22 states the applicant is to apply to re-establish performance standard limits for carbon monoxide (CO) and volatile organic compounds (VOC) emissions if compliance testing demonstrates higher performance (considering variability), but only if the source achieves an average of a 50% reduction to the initial BACT limits. What is the basis for requiring the source to re-establish BACT if the steady state emissions profile for CO and VOC is 50% below the proposed initial limits? Why not require BACT to be re-established at any stable emissions rate below the initial BACT limit? We note that while the application proposed a vendor guaranteed limit of 9.0 ppm for CO and 2.0 ppm for VOC, the draft permit proposes limits that are twice as high as the applicant's requested/calculated rates. Please provide an on the record basis for the higher CO and VOC emission rates contained in the draft permit.

Maximum Allowable Emissions Rate Table (MAERT)

17. The permit lists short term limits for individual pollutants from the turbines and heat recovery steam generators. However, a long term emission limit for $NO_X$, CO, and VOC in tons per year is only expressed as a sum total of emissions from these units. The permit

was not defined as either a flexible or plant wide applicability limit (PAL) permit and the long term limit is not identified as a cap. EPA is concerned about practical enforceability for these emission units. Therefore, we recommend that each emission unit also be subject to individual long term average emission limits. Please clarify TCEQ's intention regarding how the long term emission rates for Emission Points CTG-1 and CTG-2 will be implemented to ensure compliance with the National Ambient Air Quality Standards (NAAQS).

18. The applicant provided supplemental MSS emissions times and rates that were substantially increased from the original MSS emissions estimates. The applicant did not request any additional start-up and shutdown events (currently 640 events per year), and did not update the text portion of the application to provide any basis for the updated data. The time to complete each MSS mode is significantly higher than what was originally submitted in the 2008 application package. The updated application materials provided (revised April 2010) did not update or re-evaluate the cost feasibility portion of the CO BACT analysis for the proposed CO oxidation catalyst. The BACT analysis should be updated to reflect the current application data, and the associated increase in CO emissions. Please provide a technical basis for what caused the change in MSS time in mode estimates. Did the applicant provide supplemental data from the equipment manufacturer to substantiate the request/change?

Hazardous Air Pollutants (HAPs)

19. Page 7, Condition 13.B - The applicant provided supplemental HAPs emissions data to support an overall reduction in formaldehyde formation from the combustion turbines. The applicant asserts that the reduction resulted in the source falling below the major source thresholds and that the previous identified major source MACT provisions no longer apply to the site. However, the monitoring required in the permit is deficient for adequately demonstrating the facility is not a major source for HAPs since it only requires initial testing of formaldehyde. Ongoing formaldehyde testing should also be required. In addition, initial and ongoing testing for total and speciated HAPs emissions (see pages B-21 and B-22 of MyPower Corp. permit application NOD April 2009), as appropriate, should be required. *Reference November 3, 1993 Memorandum, Approaches to Creating Federally-Enforceable Emission Limits, from John Seitz. See http://www.epa.gov/region07/air/title5/t5memos/fedenf.pdf.*

20. The applicant referenced a technical paper, GER 4213 by General Electric (GE), but the paper does not provide any details of the testing conditions the turbines were subjected to (e.g., operational parameters such as steady state loading or MSS cycle conditions) in obtaining the referenced 25 ppm formaldehyde emissions factors. Therefore, how does the source validate the accuracy of applying the emissions factor to any particular portion of the proposed turbine's operations? Further, the application states the turbines will be Siemens or equivalent, although the reference for the emission factors was a document prepared by GE. The applicant should only use emissions data from the manufacturer and turbine model they intend to construct.

21. Page 7, Section 13.C. - In accordance with the NESHAP standard subpart YYYY, CO is the measured surrogate, or indicator for the presence of formaldehyde in a turbines exhaust stream. Any corresponding increase in CO will create conditions favorable for the formation of formaldehyde. Therefore, considering that MSS cycles will likely generate the overwhelming majority of CO emissions, TCEQ should require the applicant to test each turbine for formaldehyde during each MSS operational cycle represented in the permit application to determine the representative quantity of emissions present. These performance tests results, along with the steady state testing results required in condition 13.B should be scaled to the representations made in the application for time in mode and total annual SS events to determine the sources true PTE.

22. HAP emissions from all sources at the site should be included in the final source-wide calculations. EPA notes the dew point heaters, auxiliary boiler, emergency engines, and tanks were not included in the HAPs emissions calculations. If the combustion turbines or the site is determined to be major as a result of the tests, then the source must be in compliance with any/all applicable NESHAP requirements when the source becomes major.

Air Quality Impacts Analysis

23. EPA is concerned about the PSD Ozone Ambient Impact Analysis (Section 13.5 of modeling report) conducted by the applicant to assess the ozone impacts from the proposed source. TCEQ determined, based on the applicant's ozone analysis, that the proposed source is not expected to have a significant impact on the maximum ozone concentration near the area. Specifically, the applicant's analysis determined that the site is ozone neutral based on proposed NOx and VOC emissions, and the source would not cause a significant increase in ozone formation at or near the site. The approach used by the applicant follows the TCEQ's Draft Ozone Procedures – modeling guidance for ozone impacts, which is not consistent with the scientific principles that Texas's ozone attainment SIPs utilize to lower ozone levels in Dallas-Fort Worth, Houston, Beaumont, and other areas. [1] Based on TCEQ's own photochemical modeling most of the urban and rural areas of Texas are NOx limited, not VOC limited. TCEQ should evaluate their photochemical modeling databases from recent SIPs for each source's ozone impact analyses and determine if the area that a source is proposing to locate in is either $NO_X$ or

[1] The TCEQ guidance that was used is based either on early RPM modeling, EKMA tables used in the Scheffe Point Source Screening Tables, or other EKMA tables from the 1980s or early 1990s. EKMA information and other photochemical modeling from this time period did not include the emissions from biogenic sources which have been included in photochemical modeling since the mid-1990s. The information that does not include the biogenic emissions is scientifically flawed and not valid to be used in current day analyses for ozone impact analysis. Determination of whether a source is either VOC limited or NOx limited should be based on local VOC/NOx ratios from a local monitor or from photochemical modeling that covers the area of concern, not on the ratio of the source's emissions. If the surrounding atmosphere is NOx limited but a source, such as MyPower's proposed source, is VOC limited based on TCEQ's guidance the proposed source's NOx emissions would react with the VOCs present in the atmosphere to generate ozone when TCEQ's guidance would conclude that the source's impact on ozone levels was "neutral". TCEQ's conclusion that the source is ozone neutral based on the ratio of the source's emissions being VOC limited is an erroneous conclusion. Most areas of Texas are actually NOx limited based on TCEQ's recent photochemical modeling that has been submitted in SIP revisions to EPA.

VOC limited. Depending on the level of proposed emissions from a source, different techniques are available for estimating ozone impacts. TCEQ and the source should work with EPA on a case-by-case basis to determine the appropriate technique for conducting an ozone impact analysis in accordance with 40 C.F.R. Part 51 Appendix W 5.2.1.c and Texas Administrative Code Title 30 Part I §116.160.

The EPA does not have an established significant impact level for ozone and TCEQ should not assume that EPA recognizes a 2.0 ppb impact threshold as an "insignificant" impact for ozone when permitting this source.